



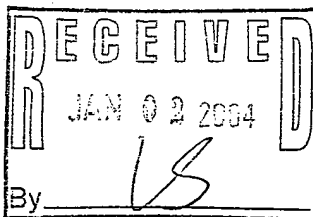
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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|----------------------|------------------|
| 09/934,816 | 08/22/2001 | Charles H. Tolman | S01.12-0777/STL 9440 | 8841 |

7590 12/29/2003

Brian D. Kaul
WESTMAN CHAMPLIN & KELLY
International Centre - Suite 1600
900 South Second Avenue
Minneapolis, MN 55402-3319



| EXAMINER |
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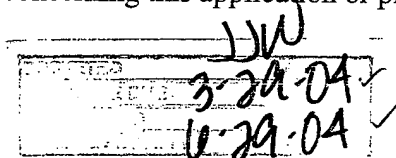
TUPPER, ROBERT S

| ART UNIT | PAPER NUMBER |
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2652

DATE MAILED: 12/29/2003

Please find below and/or attached an Office communication concerning this application or proceeding.



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JAN 27 2004

Technology Center 2600

Office Action Summary

Application No.

09/934,816

Applicant(s)

TOLMAN ET AL

Examiner

Robert S Tupper

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 March 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above claim(s) 1-10 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 16-20 is/are allowed.
- 6) ☒ Claim(s) 11-15 and 21-25 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

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Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 3.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

| | | |
|---|---|------------------------------|
| FORM PTO-1449 | Atty. Docket No.: S01.12-0777/STL 9440 | Appl. No.: Filed Herewith |
| LIST OF PATENTS AND PUBLICATIONS FOR APPLICANT'S INFORMATION DISCLOSURE STATEMENT | First Named Inventor: | |
| | Charles H. Tolman et al. | |
| | Filing Date | Group |
| | Filed Herewith | |

U.S. PATENT DOCUMENTS

| Examiner Initial | Document No. | Date | Name | Class | Sub Class | Filing Date If Appropriate |
|------------------|--------------|-----------|----------|-----------------|-----------|----------------------------|
| RST | AA | 4,992,901 | 12/12/91 | Keel et al. | 360 | 110 |
| | AB | 5,116,719 | 5/26/92 | Gau | 430 | 313 |
| | AC | 5,200,056 | 4/6/93 | Cohen et al. | 205 | 122 |
| | AD | 5,406,434 | 4/11/95 | Amin et al. | 360 | 126 |
| | AE | 5,699,605 | 12/23/97 | Amin et al. | 29 | 603.14 |
| | AF | 6,054,023 | 4/25/00 | Chang et al. | 204 | 192.2 |
| RST | AG | 6,156,487 | 12/5/00 | Jennison et al. | 430 | 316 |
| | AH | | | | | |
| | AI | | | | | |
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FOREIGN PATENT DOCUMENTS

| | Document No. | Date | Country | Class | Sub Class | Translation Yes No |
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| AK | | | | | | |
| AL | | | | | | |
| AM | | | | | | |

OTHER ART (Including Author, Title, Date, Pertinent Pages, Etc.)

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| AN | |
| AO | |
| AP | |
| EXAMINER: R.S. Turner | DATE CONSIDERED: 12/03 |

EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP 609; draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

1. Applicant's election with traverse of the invention of Group II, claims 11-25, in Paper No. 5 of 3/18/03 is acknowledged. The traversal is on the ground(s) that the invention of Group II cannot be made using a materially different process from that defined in the claims of Group I. This is not found persuasive because Applicant has argued a breadth for the method claims that clearly encompasses using the method to make other materially different products. Method claim 1 recites that it is the method of forming a top pole, whereas apparatus claim 11 recites that the product is a write element. Further, the method claim does not positively recite a step of providing a gap member. Thus the method of group I can be used to make a narrow top pole for heads materially different from the write element defined in Group II.

The requirement is still deemed proper and is therefore made FINAL.

2. Claims 1-10 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected invention, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in Paper No. 5.

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 11-13 and 21-23 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by CHEN et al (5,652,687).

Note figure 21. CHEN et al shows write head having a bottom pole (P1/P1T0 having a top surface (not numbered), a first trench (metal layer 172, best seen in figure 18) with a first opening defined by opposed sidewalls, a second trench (120) also defined by opposing sidewalls, a gap member (G), and a top pole (P2T) located within the second opening. The gap width is stated to be less than 1 micron (see column 4 line 62 – column 5 line 4) and thus reads on the recitations in claims 12 and 22. The sidewalls of the second trench are of the same material as the gap member and read on the recitations in claims 13 and 23. Note that these claims do not require that: (1) the top surface of the bottom pole be flat, (2) the first trench be in direct contact with the top surface of the bottom pole, or (3) the trenches be of different widths.

The recitation of a method in claim 21 is noted. As the claim is directed to a "magnetic head", per se, the method limitation appearing in this claim has only been accorded weight to the extent that it affects the structure of the completed magnetic head. Note that "[d]etermination of patentability in 'product-by-process' claims is based on product itself, even though such claims are limited and defined by process, and thus product in such claim is unpatentable if it is the same as, or obvious form, product of prior art, even if prior product was made by a different process", *In re Thorpe, et al.*, 227 USPQ 964 (CAFC 1985). Furthermore, note that a "[p]roduct-by-process claim, although reciting subject matter of claim in terms of how it is made, is still product claim; it is patentability of product claimed and not recited process steps that must be

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established, in spite of fact that claim may recite only process limitations", *In re Hirao and Sato*, 190 USPQ 685 (CCPA 1976).

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 14, 15, 24, and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over CHEN et al (5,652,687).

CHEN et al shows a thin film head structure substantially as claimed. CHEN et al differs only in not disclosing the exact dimensions listed in these claims.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to configure the head of CHEN et al to have the listed dimensions. The motivation is as follows: these would have been the obvious result of routine experimentation and optimization. Note that CHEN et al refers to these dimensions in general when stating that the gap width would be less than 1 micron (see column 4 line 62 – column 5 line 4). One of ordinary skill in the art would routinely experiment and optimize where no specific dimensions were disclosed.

7. The following is a statement of reasons for the indication of allowable subject matter:

Claims 16-20 utilize the "means plus function" format to recite the trench structures. The prior art does not teach or suggest a head structure having the structures disclosed and shown in figure 4.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Robert S Tupper whose telephone number is 703-308-1601. The examiner can normally be reached on Mon - Fri, 6:00 AM - 3:30 PM (first Fri off).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hoa Nguyen can be reached on 703-305-9687. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9314.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-3054750.



Robert S Tupper
Primary Examiner
Art Unit 2652

rst

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|-----------------------------------|---------------------------------------|---|-------------|
| Notice of References Cited | Application/Control No. 09/934,816 | Applicant(s)/Patent Under Reexamination TOLMAN ET AL. | |
| | Examiner Robert S Tupper | Art Unit 2652 | Page 1 of 1 |

U.S. PATENT DOCUMENTS

| * | | Document Number Country Code-Number-Kind Code | Date MM-YYYY | Name | Classification |
|---|---|--|-----------------|-------------|----------------|
| | A | US-5,652,687 | 07-1997 | Chen et al. | 360/126 |
| | B | US- | | | |
| | C | US- | | | |
| | D | US- | | | |
| | E | US- | | | |
| | F | US- | | | |
| | G | US- | | | |
| | H | US- | | | |
| | I | US- | | | |
| | J | US- | | | |
| | K | US- | | | |
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| | M | US- | | | |

FOREIGN PATENT DOCUMENTS

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NON-PATENT DOCUMENTS

| * | | Include as applicable: Author, Title Date, Publisher, Edition or Volume, Pertinent Pages) |
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| | U | |
| | V | |
| | W | |
| | X | |

*A copy of this reference is not being furnished with this Office action. (See MPEP § 707.05(a).)
Dates in MM-YYYY format are publication dates. Classifications may be US or foreign.